Space Weather Forecast

Issued on Thursday 6 March 2025 at 12:03 Local

This forecast provides a four-day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

---

Space Weather Forecast Headline: Chance of M-class flares (Minor-Moderate radio blackouts) throughout. Minor/Moderate geomagnetic storm (G1/G2) likely Days 3/4.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity reached Moderate levels just prior to this period following an isolated, impulsive low level Moderate-class flare at 05/1150UTC from a small bi-polar group located in the southeast quadrant. Otherwise, activity has been Low with occasional low level Common-class activity in the past 24 hours.

There are currently nine sunspot regions on the visible solar disc. A moderately large bi-polar group in the southeast quadrant is the most significant region but has not produced any significant flares recently. The second largest region nearing the southwest limb, is a relatively simple bi-polar group. A relatively small, but slowly developing bi-polar group in the southeast has a potentially more complex magnetic structure, and produced the only notable flare of the period, mentioned above. Remaining spot regions are small and magnetically simple.

No Earth-directed Coronal Mass Ejections (CMEs) were identified in available satellite imagery.

Solar Wind / Geomagnetic Activity: Solar winds were between Slightly Elevated and Background levels. The Interplanetary Magnetic Field was Weak, and the north-south component was Weak and variable. Geomagnetic activity was Quiet (Kp 1-2), as observed by BGS.

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be generally Low, with a chance of further isolated M-class flares.

Solar Wind / Geomagnetic Activity: There are currently no Earth-directed CMEs in the forecast. Slightly Elevated winds are expected to continue declining towards Background during days 1 and 9 (6/7 March). On Day 3 (8 March) the next fast wind from a coronal hole may reach Earth increasing the solar wind speed to Elevated to Strong. Geomagnetic activity is expected to be Quiet to Unsettled levels on days 1 and 2. On day 3 and 4 (8/9 March), periods of Active to G1/minor geomagnetic storm are likely with a chance of isolated G2/Moderate geomagnetic storms.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 370 900 0100 Email: enquiries@metoffice.gov.uk

© Crown Copyright 2025. All Rights Reserved.

Energetic Particles / Solar Radiation: No solar radiation storms are expected.

Geomagnetic Storms

Geomagnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	60	60
Strong	G3	No	1	1	10	10
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X-Ray Flares

X-Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 (M Class)	No	45	45	45	45
Very Active	R3-R5 (X Class)	No	5	5	5	5

Solar Radiation Storms (High Energy Protons)

Radiation Storms Probability (Exceedance)	Level ($cm^{-2}sr^{-1}s^{-1}$)	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	5	5
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and/or 50 MeV ≥ 10pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 370 900 0100 Email: enquiries@metoffice.gov.uk

© Crown Copyright 2025. All Rights Reserved.